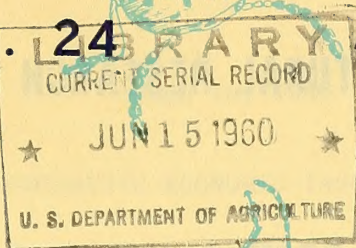


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Cooperative **ECONOMIC INSECT REPORT**

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PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS moderate to heavy and damaging crops in area of San Miguel County, New Mexico; controls in progress. Adults of Melanoplus bilituratus defectus and nymphs of Oedaleonotus enigma heavy in local areas of California. (pp. 481, 503). EUROPEAN CORN BORER larvae present in areas of Delaware and Maryland. (pp. 481, 490). CORN EARWORM heavy in corn in Laurens County, Georgia, and in Tennessee Valley of Alabama. (pp. 482, 502). ARMYWORM infestations heavy in wheat in localized areas of Custer County, Oklahoma. (p. 482). BROWN WHEAT MITE heavy in wheat in areas of Utah and Idaho. (p. 503). MEADOW SPITTLEBUG moderate to heavy on red clover in central and western Maryland and high populations present along Ohio River in southeastern Ohio. (p. 485). ALFALFA WEEVIL damage increasing and becoming more prevalent in areas of Utah, Nevada and Idaho. (pp. 486, 503, 504). SWEETCLOVER WEEVIL damage to seedling sweetclover heavy in southwestern South Dakota. (p. 486). TOBACCO THRIPS causing considerable damage to peanuts in southeastern Alabama. (p. 502).

CODLING MOTH emergence reported over a wide area. (p. 488). APPLE CURCULIO injury to apple reported near Kansas City, Missouri, and EUROPEAN APPLE SAWFLY heavy on apple trees in areas of New York. (p. 489).

GREEN PEACH APHID heavy and difficult to control on peppers in Hidalgo County, Texas. BEET LEAFHOPPER averages 3.4 per foot of sugar beet row in Sevier and Sanpete Counties, Utah. (p. 503).

THRIPS infestations and damage noticeable in cotton in several states. (p. 493).

BLACK PINE NEEDLE SCALE heavy on about 2,000 acres of jack pine in Wisconsin (p. 495); CANKERWORMS heavy on trees on Long Island, New York, and in Cranston area of Rhode Island; and ELM LEAF BEETLE skeletonizing elm leaves in areas of Illinois (p. 496). MOUNTAIN PINE BEETLE and WESTERN PINE BEETLE infestations on ponderosa pine continue high in area of Washoe County, Nevada. (p. 504).

FACE FLY annoying cattle in Vermont, Indiana and Ohio. (pp. 498, 504).

GREATER WAX MOTH has been a serious problem in New Mexico in weakened honey bee colonies. (p. 503).

INSECT DETECTION: A mint aphid (Phorodon menthae) recorded for first time in Virginia. (p. 492). Two scale insects, Mycetococcus ehrhorni and Aspidiotus osborni, collected for first time in Contra Costa County, California, and another scale insect, A. densiflorae, collected for first time in El Dorado County, California. (p. 497).

CORRECTIONS (p. 500)

ADDITIONAL NOTES (pp. 502-504)

Status of some IMPORTANT INSECTS in the United States. (p. 505).

WEATHER OF THE WEEK ENDING JUNE 6

Warm, dry weather, with temperatures normal to much above normal, was general over most of the western half of the Nation this week, extending eastward into the central Great Plains. Temperatures in other sections averaged near normal, except for continued much-above-normal readings in northern New England. Extremely hot temperatures, with drying winds, were recorded in the central valleys of California during much of the week, extending to the central coast on June 2, when readings of 110° at Sacramento, and 108° at Bakersfield were record-high temperatures for so early in the year, and 102° at the San Francisco Airport and 95° downtown were record-high readings for June there. A large mass of cool air moved southward from the North Central States over the weekend, dropping temperatures appreciably from the central Rocky Mountains to the Great Lakes. Some light frost was recorded in northern Wisconsin.

Precipitation west of the Rocky Mountains fell as very light and scattered showers in isolated sections, but no appreciable amounts were reported as moisture deficits continue to build in several areas. No moisture at all or only very light showers were recorded in southern portions of Texas and Louisiana, Nebraska, the western Dakotas and Montana, and in a small area of northern Alabama and Georgia where extremely dry conditions have developed. Precipitation in most other areas east of the Rocky Mountains fell mainly as local showers and thunderstorms. Amounts ranged from light to heavy with widely varying totals in relatively short distances. Fieldwork made good progress although showers continued to delay activity locally. Some hail, wind, or lightning damage was recorded in local sections of the Middle West, Middle Atlantic States, and New England. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - IDAHO - Range grasshoppers of some species commencing to hatch in numerous southern range areas. (Gittins, May 27). CALIFORNIA - Melanoplus bilituratus defectus adults heavy on alfalfa in Calipatria area, Imperial County; Trimerotropis pallidipennis light on rangeland in Winter area, Yolo County; and Oedaleonotus enigma nymphs heavy on rangeland at Vacaville, Solano County. (Cal. Coop. Rpt.). COLORADO - Melanoplus sp. averaged 1 per 10 square yards on rangeland in Logan County and 10-30 per square yard on conservation reserve land along Prowers-Kiowa County line. In wheat, Melanoplus sp. nymphs ranged 0-1 per square yard in borders in Phillips County; and in alfalfa, M. bilituratus ranged 3-5 per square yard in Washington County. All counts were of second and third-instar nymphs. (Colo. Ins. Sur.). TEXAS - First and second-instar nymphs of Aeoloplides turnbulli, M. bruneri, M. bivittatus and M. packardii averaged 320 per square yard in soil bank margins of Dallam County. (Russell). OKLAHOMA - Light counts of Melanoplus spp., 0-4 per square yard, in pastureland and margins in Roger Mills and Beckham Counties. (Hudson). NEBRASKA - Hatch well underway. Dominant crop species include M. bivittatus and M. bilituratus. Range species include Ageneotettix deorum and Amphitornus coloradus, with adults of M. confusus and Aeropedellus clavatus also present. Populations in Morrill County up to 60 per square yard. (Bell). SOUTH DAKOTA - Nymphal surveys show light populations in central area; average counts 2-3 per square yard along roadsides, although one spot northeast of Pierre showed a population of up to 50 nymphs of M. bivittatus per square yard. Light hatching of first, second and third-instar nymphs of M. confusus noted in southwestern area. (Burge). NORTH DAKOTA - Survey in southwestern counties showed no economic infestations in cropland and in rangeland. First-instar M. bivittatus nymphs observed in an unworked summer-fallow field in Adams County. Nymphs of rangeland species, first to fifth instars, averaged 3-7 per square yard in several locations in Golden Valley and Billings Counties. Moisture now adequate over most of southwest. (Olson). MINNESOTA - Egg development in west central district as follows: M. bivittatus - segmentation complete, some light hatch observed; M. bilituratus - eye-spot to segmentation complete; M. femur-rubrum - coagulated to eye-spot. On light, sandy soils and protected sites, egg development more advanced and some light hatch observed in central, west central and southwest districts. (Minn. Ins. Rpt.). WISCONSIN - M. femur-rubrum eggs coagulated, with a few eye-spot, in light soil areas of Columbia, Green Lake, Waushara, Waupaca, Shawano, Portage and Marquette Counties. M. differentialis eggs also ranged from coagulated to eye-spot in Green Lake County. (Wis. Coop. Sur.). ILLINOIS - Grasshoppers, adults and first-instar nymphs, collected in northern area on alfalfa and clover. (Ill. Ins. Rpt.). DELAWARE - Nymphs of undetermined species common on clover in New Castle County and on soybeans in Sussex County, causing light feeding injury. (Burbutis, Mason).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEBRASKA - Spring survival survey completed in Hall and Cuming Counties, with the percent winter mortality, plus tillage, reported as follows: Hall County (1959-60) - 98.8, (1958-59) - 93.4; Cuming County (1959-60) - 94.5, (1958-59) - 92.3. The average number of borers per acre was as follows: Hall County (fall 1959) - 28,998, (spring 1960) - 346; Cuming County (fall 1959) - 26,169, (spring 1960) - 1,429. (Webb). KANSAS - Examination of cornstalks in Jefferson County on May 26 showed the following: 13 percent of borers in larval stage and 87 percent pupated; 40 percent already emerged. Corn small; little first-brood infestation expected. (Burkhardt). MINNESOTA - Pupation observed in central and west central districts. Corn development slow and behind European corn borer. (Minn. Ins. Rpt.). WISCONSIN - Pupation 8 percent in Fond du Lac County and in excess of 60 percent in Dane County on May 31. (Wis. Coop. Sur.). IOWA - Pupation 92 percent at Ankeny on May 27; no emergence noted. (Iowa Ins. Inf.). ILLINOIS - Pupation complete in central and southern areas; emergence 0-40 percent. Pupation in northern area ranged 50-95 percent, with trace emergence. (Ill. Ins. Rpt.). OHIO - Pupation 100 percent in Franklin County. (Triplehorn). MARYLAND - Small larvae in leaf stalks locally in Dorchester County on May 27. (U. Md., Ent. Dept.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ARKANSAS - Pupation 60 percent on May 30 in northwest area. (Whitcomb). OKLAHOMA - Moths present in corn in Stillwater area. (Arbuthnot).

CORN EARWORM (Heliothis zea) - GEORGIA - Heavy infestations in whorls of corn in Laurens County; corn approximately 24 inches high. (Johnson). LOUISIANA - Approximately 85-95 percent of sweet corn in southern half of State infested with larvae. In some cases infestations run as high as 100 percent. (Spink). OKLAHOMA - Very light infestations in corn and alfalfa in east central area. (VanCleave, Robinson). TEXAS - Damaging popcorn tassels and tender parts of terminal buds in Guadalupe County (Massey); medium and damaging corn in Zavala County (Prucia).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - New deadhearts averaged 278 per acre at survey points in 101 fields of stubble sugarcane checked in 13 parishes. The accumulative total now averages 490 per acre. No egg masses present. Approximately one percent of first-generation larvae pupated. Infestations in corn less than 1 percent in East Baton Rouge Parish. (Spink).

BLACK CUTWORM (Agrotis ipsilon) - IOWA - Larvae active in western area on field crops. (Iowa Ins. Inf., May 31). NEBRASKA - Cutworms, probably this species, infesting 40 percent of fields checked in Saline, Fillmore, Lancaster, Gage, Pawnee, Johnson, Nemaha and Richardson Counties; and show from less than one to 50 percent injury. Some plants have only a few holes in leaves, while others cut off at soil level. (Simpson). OHIO - Damage to corn, probably by this species, observed in 3 fields in Ross County. (Blair).

DINGY CUTWORM (Feltia subgothica) - MISSOURI - Found in variety of field crops, with most extensive damage to corn. Marginal rows of soybeans and grain sorghum show some injury. Approximately 1 percent of corn in northwest shows considerable damage. (Munson, Thomas, Kyd).

CUTWORMS (undetermined) - ILLINOIS - Reported from various localities in southern one-half of State, with maximum 40 percent damage in one cornfield. Occasional instances of sod webworm damage also reported. (Ill. Ins. Rpt.).

ARMYWORM (Pseudaletia unipuncta) - OKLAHOMA - Isolated infestations, light to heavy (up to 20 per linear foot), in limited number of wheat fields in Washita County; none noted in most fields checked in county. (Hudson). Heavy infestations in localized areas of Custer County; wheat fields affected primarily those having rank growth in river bottoms. (Patrick). KANSAS - Reported on wheat in Sedgwick County. (Gates). MINNESOTA - None found. (Minn. Ins. Rpt.). ILLINOIS - Approximately one-fourth to one-half-grown larvae appearing in small numbers in grain and grass fields. One infestation averaged 4 larvae per linear foot. (Ill. Ins. Rpt.). DELAWARE - First larvae of season present in New Castle County. (Burbutis, Mason).

WHEATHEAD ARMYWORM (Faronta diffusa) - COLORADO - Moths averaged 4 per day in light trap at Rocky Ford, Otero County. (Colo. Ins. Sur.).

CHINCH BUG (Blissus leucopterus) - KANSAS - Abundant in several fields of wheat in Marion County. (Gates). OKLAHOMA - Danger of damage decreasing in east central area. (VanCleave, Robinson). TEXAS - Medium to heavy infestations in corn and grain sorghum in Lee County. (Texas Coop. Rpt.).

BARLEY APHIDS - OREGON - Spring barley continues practically free of barley yellow dwarf virus aphid vectors. This is believed to be result of cold weather in March, reducing overwintering vectors on perennial grasses and winter cereals; and high populations of coccinellid adults. Field infestations range none to 4 percent of plants infested. This contrasts with 1958 and 1959, when infestations at this stage of development were 23 percent and 29 percent, respectively. (Dickason).

ENGLISH GRAIN APHID (Macrosiphum granarium) - NEBRASKA - Low number of this species and Rhopalosiphum fitchii present in a few grain fields; highest counts less than 5 per 10 sweeps. (Simpson). WISCONSIN - In northeastern Dane County, 24-inch rye had 6 per 50 sweeps. Counts in oats ranged 2-3.5 per 100 sweeps in Fond du Lac, Winnebago and Green Lake Counties. (Wis. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEBRASKA - Counts in sorghum in Otoe, Gage and Lancaster Counties averaged 20 per foot of row. Very low numbers of winged forms present on young corn plants. (Simpson). KANSAS - Large numbers collected in air-sock and air-maze traps at Garden City Experiment Station, Finney County. Light in barley plots on the station and barley fields in Garden City area. (DePew).

A RICE DELPHACID (Sogatia orizicola) - LOUISIANA - Negative results from 1,200 sweeps of 300 acres of rice in St. Landry Parish. (Spink).

RICE STINK BUG (Oebalus pugnax) - LOUISIANA - Averaged 117 per 10 sweeps on grasses associated with rice in St. Landry Parish. (Spink).

HESSIAN FLY (Phytophaga destructor) - MICHIGAN - Emergence complete May 23 at East Lansing and Cassopolis, with only a few stragglers appearing daily. (Hutson).

CORN FLEA BEETLE (Chaetocnema pulicaria) - NEW YORK - Counts fewer than 1 per 100 sweet corn plants on May 26 in Stone Ridge-Hurley area of Ulster County. In Dutchess County on May 27, counts in Poughkeepsie vicinity numbered 6 to as high as 18 per 100 sweet corn plants, with marks ranging from 75 percent to about 100 percent on the 3 lower leaves. Stewart's disease present in 5 of 1,000 plants examined in one field and 2 of 500 in another at Poughkeepsie. (N. Y. Wkly. Rpt.). MARYLAND - Common and injuring sweet corn in Calvert, Baltimore and Montgomery Counties. (U. Md., Ent. Dept.). NORTH CAROLINA - Light infestation in cornfield in Duplin County. (Albertson, Lauffer). ILLINOIS - Varies 12-100 per 100 corn plants in southern area. (Ill. Ins. Rpt.). KANSAS - Several fields of corn infested in Jefferson and Shawnee Counties; counts ranged 11-14 adults per seedling plant of corn. (Burkhardt, May 28).

A CARABID (Clivina sp.) - SOUTH DAKOTA - Injuring corn seed planted in Butte County; estimates as high as 50 percent loss of seed in some areas. (Hantsbarger).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - LOUISIANA - Larvae averaged 23 per stool in one rice field and 8 per stool in another field in Allen Parish. (Spink).

WHITE GRUBS - ILLINOIS - Destroyed 3 fields of corn; one in Douglas, one in Livingston and one in La Salle County. (Ill. Ins. Rpt.). SOUTH DAKOTA - Scattered infestations of Phyllophaga sp. appearing in corn, flax and small grains adjacent to shelterbelts throughout east central area. Severely damaged spots range 2-15 acres, with populations up to 30 grubs per acre. Treatment underway. (Hantsbarger).

WIREWORMS - NORTH CAROLINA - Wireworms, chiefly Melanotus communis, infesting 5-30 percent of corn in 6 fields in Roanoke River Valley. M. communis, Conoderus lividus and Glyptonyx sp. all actively feeding on corn in Hyde County. Two fields, 70 percent infested, plowed under and an adjacent field 40 percent infested. (Kulash). SOUTH CAROLINA - Several specimens of Horistonotus uhlerii found damaging peanuts in Allendale County; none found this season in Colleton, Bamberg and Hampton Counties. (Nettles et al.). ILLINOIS - Light infestations of unspecified species on corn in several southern locations. (Ill. Ins. Rpt.). WISCONSIN - Counts in lowland cornfield averaged 20 per 100 corn plants. (Wis. Coop. Sur.). IDAHO - Undetermined species have so seriously reduced a 600-acre wheat stand in Power County that replanting required. Light injury also observed in some wheat and barley in Bingham County. (Bishop, May 27).

CHINCH BUGS (Blissus spp.) - NEW JERSEY - Overwintered adults of B. leucopterus hirtus active in lawns in Bergen County. (Ins.-Dis. Newsl.). SOUTH CAROLINA - An early outbreak of B. leucopterus insularis found in lawns in Jasper County. (Nettles et al.).

A WHITE GRUB (Phyllophaga ephilida) - MARYLAND - Damaged a lawn at Kensington, Montgomery County. (U. Md., Ent. Dept.).

ERIOPHYID MITES - ARIZONA - Evidence of severe injury observed in many lawns in Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

MEADOW PLANT BUG (Leptopterna dolabratus) - MARYLAND - Common on orchardgrass hay in Montgomery and Howard Counties. (U. Md., Ent. Dept.).

PEA APHID (Macrosiphum pisi) - NEW YORK - Counts per 100 sweeps in Oswego County on May 26 were 415 on red clover and 5,400 on alfalfa. (N. Y. Wkly. Rpt.). DELAWARE - Present in alfalfa in Kent County; averaged 2 per 10 sweeps. (Burbutis, Mason). MARYLAND - Light on second-growth alfalfa in Howard, Calvert and Harford Counties. (U. Md., Ent. Dept.). ILLINOIS - Ranged from 10 per 100 sweeps in northern area to 100-15,000 in central area in alfalfa and clover. (Ill. Ins. Rpt.). WISCONSIN - Counts per sweep in alfalfa by counties during period May 26-June 1 were as follows: Jefferson - 100 plus; northeastern Dane - 15; Columbia - 14; Dodge - 23; Fond du Lac - 5; Marquette - 25; Green Lake - 22; Waushara - 3; Winnebago - 30; Waupaca - 1. (Wis. Coop. Sur.). MINNESOTA - Populations in alfalfa low in central, west central and southwest districts; counts ranged 1-10 per 10 sweeps. (Minn. Ins. Rpt.). NORTH DAKOTA - Continues low in legumes, although a slight increase noted in southeast; counts average 1 per net sweep. (N. D. Ins. Sur.). NEBRASKA - Building up in all southeastern counties; infestations range 200-1,000 per 10 sweeps and average 700. First cutting complete in 30 percent of fields. (Simpson). Averaged 794 per 100 sweeps in sweetclover in Cass and Lancaster Counties. (Manglitz). KANSAS - Heavy on alfalfa in Sedgwick County. (Burkhardt). OKLAHOMA - Light infestations, 1-10 per sweep, in alfalfa in east central area (VanCleave, Robinson); light to medium, 18-110 per sweep, in alfalfa and clover in Choctaw County (Goin); light, 5-15 per sweep, in alfalfa in Johnston and Carter Counties (Vinson); light in Pontotoc County (Hailey); light in fields checked in southwest area (Hatfield); light in Noble County (Hesser); medium, 60-150 per sweep, in Garfield and Major Counties (Owens); very light in alfalfa in Woodward County (Howell). Fungi reported controlling aphid populations in an alfalfa field in Payne County during mid-May determined by Dr. E. A. Steinhaus as Entomophthora aphidis and E. thaxteriana. (Howell).

ARKANSAS - Infestations in alfalfa very low compared with infestations a few weeks ago. Averaged only 25 per 25 sweeps of 5-inch net in Washington County. (Boyer). MISSOURI - Populations remain constant; counts in alfalfa and red clover range 10-50 per sweep. (Munson, Thomas, Kyd). CALIFORNIA - Very light on alfalfa in Lakeview area, San Diego County. A new parasite, Aphidius sp., was recently released in abundance. Predators (Nabis sp., Chrysopa sp., Orius sp., Geocoris sp., and coccinellids) also very prevalent. (A. Deal). NEVADA - Averaged 6 per sweep in alfalfa in Reno-Sparks area, Washoe County; averaged 1-2 per sweep in Kings River Valley, Humboldt County. (Parker, Lauderdale; May 27). OREGON - Populations extremely low in legumes in Willamette Valley and in central area. (Dickason). IDAHO - Populations in alfalfa in southwestern and south central areas very low, averaging 1 per sweep in some fields. (Gittins, May 27).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - None found in Reno-Sparks area, Washoe County, or Kings River Valley, Humboldt County. (Lauderdale, Parker; May 27). KANSAS - Building up in Sedgwick County area. (Burkhardt). OKLAHOMA - None noted in alfalfa in east central area (VanCleave, Robinson); only very light infestations, 1-3 per sweep, noted in alfalfa in Choctaw County (Goin); light, up to 4 per sweep, in alfalfa in Johnston and Carter Counties (Vinson); light to medium, 40-500 per square foot of crown area, in alfalfa in southwest (Hatfield);

averaged 10-20 per sweep in alfalfa in Major and Garfield Counties (Owens); very low in alfalfa in Noble County (Hesser); and none noted in alfalfa in Woodward County (Howell). TEXAS - Causing medium damage to alfalfa in El Paso and Houston Counties. (Texas Coop. Rpt.).

SWEETCLOVER APHID (*Therioaphis riehmi*) - NEBRASKA - Counts in clover average 6 per 100 sweeps. (Manglitz). NORTH DAKOTA - Populations in mature sweetclover stands continue low in southeast. (N. D. Ins. Sur.).

TARNISHED PLANT BUG (*Lygus lineolaris*) - NEW YORK - Counts per 100 sweeps in Oswego County on May 26 were 158 in red clover and 55 in alfalfa. (N. Y. Wkly. Rpt.). MARYLAND - Abundant on red clover and alfalfa in central and western sections. (U. Md., Ent. Dept.). DELAWARE - Adults averaged 3-5 per 10 sweeps in alfalfa in Kent and Sussex Counties. Adults and nymphs fairly common in clover in New Castle County. (Burbutis, Mason). MINNESOTA - Nymphs hatching in alfalfa; counts range 0-30 per 10 sweeps in central, west central and southwest districts. (Minn. Ins. Rpt.). MISSOURI - Adults present in all alfalfa checked in north central area; counts ranged 1-6 per sweep. (Munson, Thomas, Kyd).

LYGUS BUGS (*Lygus* spp.) - NEVADA - Averaged 5-8 nymphs per sweep in alfalfa in Reno-Sparks area, Washoe County. (Parker, May 27). ARIZONA - Heavy in alfalfa in Maricopa, Pima, Pinal and Yuma Counties. (Ariz. Coop. Sur.). COLORADO - Adults and nymphs, 40-50 per 100 sweeps, in Logan, Sedgwick and Washington Counties on alfalfa; 100 per 100 sweeps in Montrose County. (Colo. Ins. Sur.). OKLAHOMA - Counts 1-2 per sweep in alfalfa in south central area (Vinson), light in southwest area (Hatfield) and 0.4-1 per sweep in alfalfa in east central area (VanCleave, Robinson). NORTH DAKOTA - Counts average 2 adults per 10 sweeps and 1 nymph per sweep in southeastern legume fields. (N. D. Ins. Sur.).

SIX-SPOTTED LEAFHOPPER (*Macrosteles fascifrons*) - NORTH DAKOTA - Adults continue low in southeast. Survey in small grains and legumes showed 0-16 per 100 sweeps. Counts in many fields averaged 1 per 10 sweeps. (N. D. Ins. Sur.). MINNESOTA - Rarely found in either alfalfa or small grains. (Minn. Ins. Rpt.).

MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) - MARYLAND - Moderate to heavy nymphal populations on red clover in central and western sections. Adults now appearing. (U. Md., Ent. Dept.). DELAWARE - Adults average 2 per 10 sweeps in alfalfa in northwestern Kent County and present in soybeans in New Castle County. Adults abundant on clover, 10 per sweep, in New Castle County. (Burbutis, Mason). OHIO - High populations of nymphs on alfalfa and sweetclover along Ohio River in southeastern area. (Treece). WISCONSIN - Masses becoming more apparent; moderate numbers reported in Crawford, Fond du Lac, Waukesha and La Crosse Counties in alfalfa, but large numbers reported in Lafayette County. (Wis. Coop. Sur.).

POTATO LEAFHOPPER (*Empoasca fabae*) - MARYLAND - Adults averaged 1 per 10 sweeps on second-growth alfalfa in Calvert and Harford Counties. (First of season on alfalfa). (U. Md., Ent. Dept.). DELAWARE - Adults averaged 3-5 per 10 sweeps in Kent County alfalfa. (Burbutis, Mason). ILLINOIS - Populations constant in alfalfa and clover; 0-10 per 100 sweeps in northern area and 40-320 in central area. (Ill. Ins. Rpt.). NORTH DAKOTA - None found. (N. D. Ins. Sur.).

CLOVER LEAFHOPPER (*Aceratagallia sanguinolenta*) - WISCONSIN - Adults averaged 2-3 per 10 sweeps. (Wis. Coop. Sur.). DELAWARE - Adults averaged 4 per 10 sweeps in field of alfalfa in Kent County. (Burbutis, Mason).

RAPID PLANT BUG (*Adelphocoris rapidus*) - MARYLAND - Abundant on red clover and alfalfa in central and western sections. (U. Md., Ent. Dept.). DELAWARE - Adults and nymphs numerous in field of clover in New Castle County. (Burbutis, Mason). WISCONSIN - Nymphs observed May 31 in northeastern Dane County alfalfa (2 per sweep) and averaged 1 per sweep in Dodge and Green Lake County alfalfa. (Wis. Coop. Sur.).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - DELAWARE - First adults of season noted in alfalfa in Kent County. (Burbutis, Mason).

PLANT BUGS - NEBRASKA - Nymphal populations heavy in all fields; counts ranged 40-150 per 10 sweeps. (Simpson). ILLINOIS - Ranged 30-70 per 100 sweeps in northern and central areas; about one-half Adelphocoris rapidus and one-half A. lineolatus. (Ill. Ins. Rpt.). MINNESOTA - Hatch of Adelphocoris spp. continues in alfalfa; counts range 1-50 per 10 sweeps in central, west central and southwest districts. Predator populations in alfalfa low in these districts. (Minn. Ins. Rpt.).

ALFALFA WEEVIL (Hypera postica) - NEW YORK - Increasing in Ulster County, with some damage indicated on approximately 5 percent of alfalfa plants. One field in Rockland County had extensive damage by larvae. (N. Y. Wkly. Rpt., May 31). MARYLAND - Larvae averaged 3-10 per sweep in second-growth alfalfa in Calvert and Harford Counties. Damage apparent; cocoons and new adults present. (U. Md., Ent. Dept.). DELAWARE - Larvae, all instars, very common in second-growth alfalfa in Kent and Sussex Counties, with counts averaging 2-3 per sweep. New adults present, with an average of 1.5 per 10 sweeps in Kent County. (Burbutis, Mason). OHIO - Survey in Columbiana, Jefferson, Belmont, Monroe, Noble, Guernsey and Tuscarawas Counties negative. (Treece, May 27). COLORADO - Larvae 10 percent parasitized in alfalfa; counts 5,000 per 100 sweeps in Pueblo, Otero and Crowley Counties. Adults, 2-3 per 100 sweeps, in Prowers County. Larvae, 250-350, and adults, 2-3, per 100 sweeps in Logan, Sedgwick and Washington Counties; 10 percent parasitized. Larvae, 25-30 per 100 sweeps, in Montrose and Garfield Counties. (Colo. Ins. Sur.). IDAHO - Adults extremely abundant, with considerable mating activity but no egg laying, in field near Moscow. Population of overwintering adults greater than previously recorded in area. Moderate infestations causing fairly heavy damage to 30 acres of alfalfa in Kamiah area. (Manis, Dailey; May 27). NEVADA - Heavy larval populations causing moderate to heavy damage in untreated alfalfa fields in Mason Valley, Lyon County, and averaged 8-12 larvae per sweep in several fields in Reno-Sparks area, Washoe County. (Dale, Parker; May 27).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - MARYLAND - Cocoons common in heads and bracts of red clover in central counties. (U. Md., Ent. Dept.). DELAWARE - Larvae present in clover in New Castle County. (Burbutis, Mason). ILLINOIS - Adults vary 0-10 in northern area and 0-40 in central area. (Ill. Ins. Rpt.). WISCONSIN - Adults averaged 2 per 10 sweeps in Dane and Winnebago County red clover. (Wis. Coop. Sur.). IDAHO - Adult feeding general in red clover fields in Canyon and Owyhee Counties. First and second-instar larvae very common and infesting as high as 90 percent of plants examined in some fields. (Waters, May 27).

CLOVER LEAF WEEVIL (Hypera punctata) - OHIO - First emergence of new adults observed in insectary in Wood County on May 28. (Sechriest).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - SOUTH DAKOTA - Damage to seedling sweetclover heavy in southwestern area. (Hantsbarger). NORTH DAKOTA - Injury to sweetclover light in southeast area. (N. D. Ins. Sur.).

CLOVER ROOT CURCULIO (Sitona hispidula) - NEW YORK - Counts per 100 sweeps in Oswego County on May 26 were 6 in red clover and 34 in alfalfa. (N. Y. Wkly. Rpt.).

CLOVER SEED WEEVIL (Miccotrogus picrostris) - NEW YORK - Counts per 100 sweeps in Oswego County on May 26 were 18 in red clover and 7 in alfalfa. (N. Y. Wkly. Rpt.). ILLINOIS - Averaged 50 per 100 sweeps in white clover locally near Fulton, Whiteside County. (Ill. Ins. Rpt.). WISCONSIN - Adults low in number in Dane County red clover; averaged 5 per 10 sweeps in Winnebago County. (Wis. Coop. Sur.).

A CLOVER WEEVIL (Tychius stephensi) - ILLINOIS - Averaged 4 per 100 sweeps in red clover and alfalfa in northern area. (Ill. Ins. Rpt.).

VARIEGATED CUTWORM (Peridroma saucia) - MISSOURI - Small larvae present most fields of alfalfa, red clover and improved pastures in north central and northwest areas. Populations light, 0-5 larvae per square foot, and averaged 0.5 per square foot. (Munson, Thomas, Kyd). KANSAS - Damaging alfalfa in Sedgwick and Cowley Counties; populations heavy enough to prevent regrowth. Also reported on wheat in Sedgwick County area. (Burkhardt, Gates).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - ARKANSAS - Only about 1 per 50 sweeps of 5-inch net found in alfalfa in Washington County. (Boyer). OKLAHOMA - Very light, up to 0.2 per sweep, noted in small percentage of alfalfa checked in south central, southeast, and east central areas. (VanCleave et al.).

GREEN CLOVERWORM (Plathypena scabra) - ARKANSAS - Only about 1 per 50 sweeps of 5-inch net found in alfalfa in Washington County. (Boyer). OKLAHOMA - Very light, 0-0.6 per sweep, in alfalfa in east central area. (VanCleave, Robinson). Medium in field of alfalfa in Choctaw County; none noted in other fields checked in same area. (Goin). DELAWARE - First larva of season present in alfalfa in Kent County. (Burbutis, Mason).

CLOVER HEAD CATERPILLAR (Grapholitha interstinctana) - ILLINOIS - Adults varied 0-60 per 100 sweeps in northern area and 0-40 in central area. (Ill. Ins. Rpt.). WISCONSIN - Adults averaged 2-3 per 10 sweeps. (Wis. Coop. Sur.).

A CLOVER BUD CATERPILLAR (Grapholitha conversana) - IDAHO - Adults exceedingly abundant, with considerable mating activity noted, in Moscow, Troy, Deary and Harvard areas of Latah County. (Gittins, May 27).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Increasing in east central area; counts ranged occasional to 0.6 per sweep in alfalfa. (VanCleave, Robinson). Averaged 0.5 in field of alfalfa in Choctaw County; none found in other fields surveyed in area. (Goin).

FORAGE LOOPER (Caenurgina erechtea) - ILLINOIS - Ranged 0-10 per 100 sweeps in central and northern area. (Ill. Ins. Rpt.).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Very light populations, occasional to 0.1 per sweep, in alfalfa in east central area. (VanCleave, Robinson).

MITES - NEVADA - Medium to heavy infestation on alfalfa in Fallon area, Churchill County, and Lovelock, Pershing County. (Martinelli, Sebbas, Snyder, York; May 27).

THRIPS - GEORGIA - Moderate to heavy infestations on peanuts in Laurens, Burke, Jenkins, Screven and Bulloch Counties. Heavy on field peas in Jenkins County. (Johnson). OKLAHOMA - Continue to increase in alfalfa in southwest area; infestations 15-500 per square foot of crown area. (Hatfield).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - LOUISIANA - Adult found on Louisiana State University campus. (Spink).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults common on soybeans in St. Marys County. (U. Md., Ent. Dept.). ARKANSAS - Small numbers, 1 per 25 sweeps of 5-inch net. (Boyer). ILLINOIS - Averaged 1 per linear foot in soybeans. (Ill. Ins. Rpt.). DELAWARE - Adults very common on young soybeans in Kent and Sussex Counties and present on same crop in New Castle County, with noticeable feeding injury along edges of fields. (Burbutis, Mason).

POTATO FLEA BEETLE (Epitrix cucumeris) - DELAWARE - Very common in a field of soybeans in northwestern Kent County. (Burbutis, Mason).

PALE-STRIPED FLEA BEETLE (Systema blanda) - DELAWARE - First adults of season noted in soybeans in Kent County; feeding injury very light. (Burbutis, Mason).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults present in soybeans in New Castle County. (Burbutis, Mason).

FRUIT INSECTS

CODLING MOTH (*Carpocapsa pomonella*) - VERMONT - Overwintering forms pupating rapidly, but little emergence has occurred as yet. Moth flight can be expected by June 4-5. (MacCollom, May 31). MASSACHUSETTS - Egg laying has begun. (Crop Pest Cont. Mess.). NEW JERSEY - Entries appearing in apples in southern portion of State. First-brood activity will pick up with first warm days. (Ins.-Dis. Newsl., May 31). NEW YORK - Conditions generally unfavorable for moth flight at Poughkeepsie until May 26; bait trap catches indicated flight activity was slight. Very few eggs found up to May 27, all in early stages of development. Fruit entry probably will not occur in area before June 7 or later. No emergence from cages as of May 27 in Monroe County. (N. Y. Wkly. Rpt., May 31). MARYLAND - Emergence 50 percent in field cages at Hancock, Washington County. First entries in apples noted June 1. (U. Md., Ent. Dept.). MISSOURI - First entry in State reported May 26 near Gray Summit, Franklin County. Fresh entries have been noted since that date in all sections of the State except in the northwest. (Wkly. Rpt. Fr. Gr.). INDIANA - Packing house emergence of adults at Orleans, as indicated by light trap catches, was 80 for May 24-30. This indicates the peak is at hand or has just passed. Delayed first-brood larval entries in apples will occur June 3-8. Frequent rains favor successful entry. (Marshall, May 31). ILLINOIS - Larvae ranging from newly hatched to one-third-grown on apples in Carbondale area June 1. Hatch expected to continue another week as cage emergence has only recently dropped off. (Meyer). MICHIGAN - Began emerging at Grand Rapids on May 29. (Hutson). WISCONSIN - Adults emerging in southeastern area. Four adults taken in blacklight traps at Gays Mills, Crawford County, May 31 and 2 taken in similar trap at Middleton, Dane County, on same night. Moths observed flying on night of May 30 at Gays Mills, but pupation occurred week ending May 28 in Door County. Egg hatching should occur in counties where moths are now present about June 10-15 if weather is warm enough. (Wis. Coop. Sur.). COLORADO - Emergence general in Delta, Mesa, Montrose and Garfield Counties. (Colo. Ins. Sur.). OREGON - First specimens of season noted in bait pots at Hood River, Hood River County, on June 1. (Ellertson).

RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) - WISCONSIN - High populations of adults and eggs reported May 28 in Door County. (Wis. Coop. Sur.). MICHIGAN - Hatching complete on May 28 at Eau Claire, Coloma and Benton Harbor. Hatching 50-75 percent complete at Muskegon, Ionia and Pontiac. (Hutson, May 31). ILLINOIS - Larvae mature in Carbondale area and going into pupal stage. (Meyer, June 1). MISSOURI - Some full-grown larvae found in Kansas City area on June 1. Few partly grown larvae still being found in central area. Quite a few pupae present in Booneville area on untreated trees. Moderate to heavy infestations in northwest area, especially on water sprouts. Continuous protection appears to be indicated. (Wkly. Rpt. Fr. Gr.). NEW YORK - Hatch appears complete in Ulster County; number of orchards infested relatively small. Hatch also complete in Monroe County, except in lake orchards. (N. Y. Wkly. Rpt., May 31). VERMONT - Hatching has begun. (MacCollom, May 31).

FRUIT TREE LEAF ROLLER (*Archips argyrospila*) - IDAHO - Larval populations common to abundant in an abandoned orchard near Moscow. Sampled larvae predominantly third and fourth instars. (Manis, May 27).

OBLIQUE-BANDED LEAF ROLLER (*Archips rosaceana*) - OREGON - Overwintering larvae nearing maturity; pupation will probably occur during next week in Willamette Valley. Abundance is about normal, but prolonged spring rains prevented usual early spring control applications. (Rosenstiel).

ORIENTAL FRUIT MOTH (*Grapholitha molesta*) - INDIANA - Packing house emergence past peak at Orleans. (Marshall, May 31). ILLINOIS - Larvae have nearly all left twigs and moth emergence is probably beginning in Carbondale area. (Meyer, June 1). MISSOURI - Fresh twig damage remains evident, although peak has passed. (Wkly. Rpt. Fr. Gr.). CALIFORNIA - Heavy infestation in peach in Woodville, Tulare County. This area has not previously had heavy populations. (Cal. Coop. Rpt.). NEW YORK - Traps placed in 3 peach orchards in Rockland County, May 16, averaged 8 per trap at 2 locations and 20 per trap at one location on May 23. (N. Y. Wkly. Rpt.).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - IDAHO - Larvae very abundant; predominantly in last instar, with pupation beginning at Moscow. (Manis, May 27). WISCONSIN - Populations in Door County cherries ranged moderate to heavy May 28, nests being formed in terminal leaves. (Wis. Coop. Sur.). MAINE - Light infestation and damage reported from Aroostook County on apples. (Boulanger, May 27).

PLUM CURCULIO (Conotrachelus nenuphar) - VERMONT - Egg laying began about May 28-29. (MacCollom). MASSACHUSETTS - Remains number one pest of apples. (Crop Pest Cont. Mess.). NEW YORK - Damaging cherries and other fruits in Suffolk County. (N. Y. Wkly. Rpt., May 31). MARYLAND - Mature larvae noted in plum and peach fruits locally in Harford County. (U. Md., Ent. Dept.). WISCONSIN - Light to moderate adult populations present in Door County apple orchards by the open cluster stage (May 28) and in cherries May 25. (Wis. Coop. Sur.). MISSOURI - Some early feeding injury noted in Booneville area. Larvae leaving fruit to pupate in southeast area. (Wkly. Rpt. Fr. Gr.). GEORGIA - No emergence of first-generation adults at Ft. Valley as of June 1. Dry weather may delay emergence somewhat. (Snapp). TEXAS - Few larvae observed in wild plums in Caldwell County. (Massey).

APPLE CURCULIO (Tachypterellus quadrigibbus) - MISSOURI - A single instance of injury reported from near Kansas City. This pest is rare in the State. (Wkly. Rpt. Fr. Gr.).

ROSY APPLE APHID (Anuraphis roseus) - NEW JERSEY - Very heavy in one untreated apple orchard in southern part of State; half of fruit clusters infested. (Ins.-Dis. Newsl., May 31). NEW YORK - Reported to be present in several Monroe County orchards. (N. Y. Wkly. Rpt., May 31). INDIANA - Caused serious damage in apple orchards in Orleans area where no controls were applied. (Marshall, May 31). MISSOURI - Reports received from west central and southeast areas. (Wkly. Rpt. Fr. Gr.). OREGON - Populations well below normal in Willamette Valley. (Jones).

APPLE APHID (Aphis pomi) - MAINE - Stem mothers generally light; no colonies observed; no injury to May 27. (Boulanger). NEW JERSEY - Appearing in some southern apple orchards. (Ins.-Dis. Newsl., May 31). MISSOURI - Present in nearly all orchards. (Wkly. Rpt. Fr. Gr.). ILLINOIS - Generally well under control in Carbondale area. (Meyer, June 1).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Heavy on apple at Lone Pine, Inyo County, and in Springville, Tulare County. (Cal. Coop. Rpt.).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - NEW YORK - Heavy injury on apple trees in Newburgh area and injury extensive in central part of Orange County. (N. Y. Wkly. Rpt., May 31).

EUROPEAN RED MITE (Panonychus ulmi) - WISCONSIN - High populations of all active stages in Door County, May 28. (Wis. Coop. Sur.). MISSOURI - Some reports from southeast area. (Wkly. Rpt. Fr. Gr.). MAINE - First generation about 20 percent in adult stage. No summer eggs found as of May 26. (Boulanger, May 27). VERMONT - Remains a problem in some orchards, with heavy summer cycle egg laying. (MacCollom, May 31). NEW YORK - Laying eggs where controls not applied in Ulster County. Buildup appears strong in several Monroe County orchards. (N. Y. Wkly. Rpt., May 31).

PEAR LEAF BLISTER MITE (Eriophyes pyri) - CALIFORNIA - Light on pear trees at Stockton, San Joaquin County. (Cal. Coop. Rpt.). RHODE ISLAND - Infestation on pear in Lincoln area. (Hansen).

PEACH TREE BORERS - INDIANA - Adult emergence of Synanthedon pictipes expected soon in Orleans area (Marshall, May 31) and emergence of Sanninoidea exitiosa recorded last of May in Lafayette area (Chandler).

WESTERN CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - OREGON - First adult of season emerged at The Dalles, Wasco County, May 30. (Ellertson).

WESTERN STRIPED CUCUMBER BEETLE (Acalymma trivittata) - CALIFORNIA - Heavy on peach leaves in Red Bluff, Tehama County. (Cal. Coop. Rpt.).

PECAN NUT CASEBEARER (Acrobasis caryae) - GEORGIA - Light infestation on pecans in Albany area, Dougherty County. (Livingston). TEXAS - More than 100 larvae per pecan tree observed in some areas of De Witt County. (Smith).

PECAN PHYLLOXERA (Phylloxera devastatrix) - OKLAHOMA - Causing concern throughout the pecan-growing area of the State. (Howell et al.).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - First and second instars of first-generation larvae present on pecans in De Witt County. (Smith).

A TENT CATERPILLAR (Malacosoma sp.) - TEXAS - Heavy infestations observed on pecan trees in Ft. Bend County. (Murray).

EUROPEAN FRUIT LECANIUM (Lecanium corni complex) - OKLAHOMA - Medium infestation noted on pecan trees checked in Stephens County. (Hatfield).

A BLUEBERRY FLEA BEETLE (Altica sylvia) - MAINE - Larvae, tentatively identified as this species, found in heavy concentrations in several Hancock County locations; damage reported to be severe. (Boulanger, May 27).

A BLUEBERRY THRIPS (Frankliniella vaccinii) - MAINE - Appearing in many fields in Hancock County; injury and infestations light. (Boulanger, May 27).

LEAFHOPPERS - NEW YORK - Overwintering adults of unspecified species appear to be more abundant than usual in many Ulster County vineyards. (N. Y. Wkly. Rpt., May 31).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - VERMONT - Laying eggs on newly emerged potatoes week ending May 31. (MacCollom). NEW YORK - Numerous on May 27 in Orleans County although there were no potato plants in the vicinity. Numerous adults and egg masses easy to find in Suffolk County. (N. Y. Wkly. Rpt.). NEW JERSEY - Hatching in central area week ending May 31. (Ins.-Dis. Newsl.). MARYLAND - Larval stages very injurious to untreated potatoes in southern area. (U. Md., Ent. Dept.). DELAWARE - Eggs abundant on tomatoes locally in western Kent County. (Burbutis, Mason). NORTH CAROLINA - First-generation adults beginning to emerge in Duplin County. (Farrier).

THREE-LINED POTATO BEETLE (Lema trilineata) - RHODE ISLAND - Recently emerged adults active in commercial potato fields in southern portion of State. (Kerr).

FLEA BEETLES - VERMONT - Abundant on tomatoes and potatoes week ending May 31. (MacCollom). NEW YORK - Still numerous in Suffolk County on many crops. (N. Y. Wkly. Rpt.). MARYLAND - Epitrix spp. moderate to heavy on untreated potato and tomato plantings in Calvert, Baltimore and Harford Counties and on eggplant in Montgomery County. (U. Md., Ent. Dept.).

A CHRYSOMELID (Lema californica) - CALIFORNIA - Light on eggplant in Huntington Beach, Orange County. (Cal. Coop. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - DELAWARE - Larvae, mostly first instar with one second instar, found in potato vines in several fields in Kent County. Several new egg masses also noted. (Burbutis, Mason).

TOMATO FRUITWORM (Heliothis zea) - SOUTH CAROLINA - Damaging beans in Clarendon County week ending June 1. (Nettles et al.) LOUISIANA - Heavy damage to untreated tomatoes, but little damage to peppers. (Spink).

POTATO TUBERWORM (Gnorimoschema operculella) - CALIFORNIA - Generally light in potato fields in the Chino area, San Bernardino County. Heavy in one volunteer field northeast of Chino. (A. Deal).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Thirty per 100 sweeps on Lycium, Fort Collins, Larimer County. (Colo. Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Occasional adult noted on potatoes in Calvert and Dorchester Counties. First of season June 2. (U. Md., Ent. Dept.).

POTATO APHID (Macrosiphum solanifolii) - MARYLAND - Light to moderate on tomatoes in central and southern sections. (U. Md., Ent. Dept.). DELAWARE - Fairly common on lower leaves of potatoes and tomatoes in all counties, slight buildup on tomatoes in New Castle County and northern Kent County. (Burbutis, Mason).

GREEN PEACH APHID (Myzus persicae) - TEXAS - Heavy on peppers in Hidalgo County; very difficult to control. (Deer). DELAWARE - Fairly common on lower leaves of potatoes and tomatoes in all counties. (Burbutis, Mason).

PEA APHID (Macrosiphum pisi) - WISCONSIN - Counts on peas were as follows: Rock County - 1 per 20 4-inch plants and less than 1 per 10 sweeps on 6-8-inch plants; Dane County - 1 per 20 4-inch plants; Columbia County - 2 per 5 sweeps on 6-inch plants; Dodge County - 1 per 10 4-inch plants and 19 per 10 sweeps in 8-10-inch plants; Fond du Lac County - 1 per 10 plants and Green Lake County 1 per 10 plants. (Wis. Coop. Sur.). OREGON - Winged migrants of this and other aphid species appearing on bean and pea crops in Willamette Valley. (Morrison).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adults and eggs in large numbers on snap beans in Harford and Montgomery Counties. (U. Md., Ent. Dept.). NEW YORK - Adults on beans in three-leaf stage. Few eggs and no larvae present. (N. Y. Wkly. Rpt.). NORTH CAROLINA - Twenty-five per 10 feet of row of untreated beans in Scotland County. (Alford).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults abundant and foliage damage evident on large acreages of snap beans in Baltimore County. (U. Md., Ent. Dept.).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata) - OREGON - Abundant on beans and requiring control in Benton County. (Morrison).

PEA WEEVIL (Bruchus pisorum) - OREGON - Reached peak of emergence from winter hibernation in Willamette Valley. (Every).

CABBAGE MAGGOT (Hylemya brassicae) - NEW JERSEY - Damage reported only from muck soil area of Warren County. (Ins.-Dis. News1., May 31).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - One mature larva per 10 heads of cabbage found in western Kent County. (Burbutis, Mason).

DIAMONDBACK MOTH (Plutella maculipennis) - IDAHO - Larvae common on rangeland stands of tumbled mustard (Sisymbrium altissimum) in south central area, with pupation commencing in Rogerson area of Twin Falls County on May 21. (Gittins).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Chemical controls applied to some greens in Bixby area. (Marshall).

CUCUMBER BEETLES - LOUISIANA - Heavy infestations on turnips at Baker. (Spink).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - MARYLAND - Adults injurious to cucumber in Anne Arundel County. (U. Md., Ent. Dept.). DELAWARE - Adults abundant and causing heavy feeding injury in one field of squash in Kent County. Also present in one commercial field of cucumbers in New Castle County. (Burbutis, Mason).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - TEXAS - Heavy on wild gourd in Lubbock County. (Weigle).

SQUASH BEETLE (Epilachna borealis) - LOUISIANA - Heavy on squash and pumpkins at Baker. (Spink).

SQUASH VINE BORER (Melittia cucurbitae) - LOUISIANA - At least one-fourth of squash plants at Baker show wilting signs due to this insect. (Spink).

LEAF MINERS - ARIZONA - Continue to infest cantaloups and watermelons in some parts of Maricopa and Yuma Counties. (Ariz. Coop. Sur.).

ONION MAGGOT (Hylemya antiqua) - NEW YORK - Damaging treated onions in Orange County; infestation normal. (N. Y. Wkly. Rpt., May 31)

ONION THRIPS (Thrips tabaci) - NEVADA - Averaged 0-5 per onion plant in Reno, Washoe County, week ending May 27. (Parker).

BROWN WHEAT MITE (Petrobia latens) - NEVADA - Light to moderate on onions and garlic in Reno, Washoe County, week ending May 27. (Bechtel, Parker).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - LOUISIANA - Averaged 139 adults per 50 sweeps on sweetpotatoes in St. Landry Parish. (Spink).

A MINT APHID (Phorodon menthae) - VIRGINIA - Collected and determined by Dr. M. D. Leonard from a home planting of spearmint in Arlington County on May 29. This is the first record of the species in the State. (Rowell).

HOP APHID (Phorodon humuli) - OREGON - Though abundant in hop yards at this time in 1959, have not yet appeared in Willamette Valley this year. (Morrison).

STRAWBERRY WEEVIL (Anthonomus signatus) - MAINE - Girdling numerous plantings, mostly home plots; damage light to moderate, week ending May 27. (Boulanger).

OMNIVOROUS LEAF TIER (Cnephasia longana) - OREGON - Appearing in somewhat heavier infestations than usual in strawberries in Willamette Valley. (Rosenstiel).

STRAWBERRY LEAF ROLLER (Ancyliis comptana fragariae) - MICHIGAN - Hard to find despite an earlier indication of abundance. (Hutson). IOWA - Active on strawberry plants week ending May 31. (Iowa Ins. Inf.).

SPIDER MITES - MARYLAND - Serious problem on strawberries in most sections. (U. Md., Ent. Dept.).

TOBACCO INSECTS

HORNWORMS (Protoparce spp.) - GEORGIA - Light to moderate on tobacco in Jenkins and Bulloch Counties. (Grimes, Johnson).

TOBACCO BUDWORM (Heliothis virescens) - GEORGIA - Moderate to heavy on tobacco in Jenkins and Bulloch Counties. (Johnson).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults averaged 3-8 per plant on newly set tobacco in Prince Georges, Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

COTTON INSECTS

THRIPS - SOUTH CAROLINA - Severe damage noted in some late-planted cotton in Florence area. (Taft, Hopkins, Jernigan). ALABAMA - Damage very noticeable on cotton throughout State. (Grimes). TENNESSEE - Unusually light for time of year on cotton in western area; present in all fields surveyed. (Locke). MISSISSIPPI - Populations increased markedly in cotton in delta counties; counts ranged 0.2-5.6 per plant in experimental plots. Older cotton past damage stage, but young cotton still being damaged in some fields. (Merkl et al.). LOUISIANA - Counts made in 50 fields in Tallulah area, all of which were infested. Average counts per plant were 5.14 in treated fields, 8.53 in untreated fields and 6.63 in all fields. Populations increased rapidly in late-planted cotton during past 7-10 days; many farmers used controls. (Smith et al.). TEXAS - Damage in McLennan and Falls Counties heavy in all late-planted cotton. (Parenica et al.). OKLAHOMA - Light to medium infestations of Frankliniella spp., 20-50 per linear foot, in cotton in Harmon and Jackson Counties (Hatfield); medium in field in Marshall County (Vinson); heavy, 6-8 per plant, in 2 fields of cotton in Choctaw County (Goin); light in cotton in east central area (VanCleave, Robinson). NEW MEXICO - Light to heavy infestations of F. occidentalis still found in cotton in Dona Ana and Luna Counties. Counts in untreated experimental plots in northern Dona Ana County 0.2-0.5 adults and 2.5-11 larvae per plant. (N. M. Coop. Rpt.).

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Few weevils appearing in older cotton. (Cott. News Lett.). SOUTH CAROLINA - Movement of weevils increasing in Florence area; peak not reached as yet. Some cut buds observed in older cotton. (Taft, Hopkins, Jernigan). GEORGIA - Adults ranged 0-4 per 100 cotton plants, averaging 3 per 100 plants. Square infestation counts not made. (Johnson). ALABAMA - Active in central and southern areas; however, fruiting not advanced enough to make square infestation counts. (Grimes). TENNESSEE - None found in southwestern area. (Locke). MISSISSIPPI - Weevils found in 4 of 20 fields examined in delta counties. Number per acre ranged 50-150 in infested fields and averaged 75. No fields of cotton have sufficient squares for square infestation counts. (Merkl et al.). LOUISIANA - Weevils found in 1 of 3 fields examined in Tallulah area; averaged 8 per acre and ranged 0-25 per acre. Activity below normal, but expected to increase rapidly by week ending June 10. Percentage of survival in hibernation cages to June 3 was 0.72, compared with 2.22 at same time in 1959. (Smith et al.). OKLAHOMA - First weevils of season noted in Choctaw County on May 27 and in Muskogee County on June 1. (Goin, Robinson). TEXAS - Weevils averaged 313 per acre in 16 untreated fields and 62 per acre in treated fields in McLennan and Falls Counties. Oviposition occurring in some more advanced fruiting fields. (Parenica et al.).

FLEAHOPPERS - ARIZONA - Counts of Spanogonicus albofasciatus very high in most cotton in parts of Pima, all of Maricopa and Pinal Counties; averaged 10-60 per 100 sweeps. Blasted square counts in Maricopa County averaged 3-7 blasted squares per plant. (Ariz. Coop. Sur.). OKLAHOMA - Light infestation of Psallus seriatus, 0.1 per plant, in cottonfield in Choctaw County. (Goin). TEXAS - Migration to cotton by P. seriatus occurred in McLennan and Falls Counties. Infestation averaged 10 per 100 terminals in 38 fields, with infestations exceeding 25 per 100 terminal level in 2 fields. (Parenica et al.).

BOLLWORMS (Heliothis spp., et al.) - GEORGIA - Egg counts in 12 southeast fields ranged 5-48 per 100 terminal buds and averaged 15 per 100 terminals. Larval counts ranged 2-25 per 100 terminal buds and averaged 8 per 100 terminals. Older cotton now squaring. (Johnson). Moderate to heavy infestation on cotton in southwest. (Jordan). MISSISSIPPI - Occasional larvae reported damaging terminal buds of cotton in delta counties; light trap catches low. (Merkl et al.).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - During May, a total of 75 adults collected from cages at Brownsville Laboratory Experimental plots at New Mexico University Farm. This makes a total of 94 moths collected so far this year. (N. M. Coop. Rpt.).

BEE T ARMYWORM (Spodoptera exigua) - CALIFORNIA - Medium on cotton in Rosedale area, Kern County. (Cal. Coop. Rpt.). NEW MEXICO - Occasional larvae on young cotton near Deming, Luna County. (N. M. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Light to medium on cotton at Pond and Rosedale, Kern County. (Cal. Coop. Rpt.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Medium on cotton in Rosedale area, Kern County. (Cal. Coop. Rpt.). ALABAMA - A moderate infestation observed on cotton in Geneva County. (Grimes).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - CALIFORNIA - Light on cotton in Pond and Rosedale, Kern County. (Cal. Coop. Rpt.).

FLEA BEETLES - TENNESSEE - Light and causing very little damage to cotton in western area. (Locke). GEORGIA - Moderate to heavy infestation of Systema blanda on seedling cotton in Spalding County on May 25; caused severe damage on 10 acres of cotton in same county on June 1. (Beckham).

APHIDS - NORTH CAROLINA - About 50 percent of cotton damaged in field in Hoke County; species probably Aphis gossypii. (Chadwick). SOUTH CAROLINA - Pea aphid infestation past in Florence area; predators effective in untreated fields. (Taft, Hopkins, Jernigan). TENNESSEE - Aphids very light in most cotton fields in western area. (Locke). ALABAMA - Heavy infestations of A. gossypii on seedling cotton in northern area; becoming severe in Madison County. (Eden).

LYGUS BUGS (Lygus spp.) - ARIZONA - Few adults caught in net in Pima and Pinal Counties; counts averaged 2 per 100 sweeps in cotton. (Ariz. Coop. Sur.).

MISSISSIPPI - Movement of L. lineolaris to cotton still very slow in delta counties; but, large population buildups occurred on alternate host plants. (Merkl et al.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

JACK-PINE BUDWORM (Choristoneura pinus) - MINNESOTA - Third-instar larvae continue feeding in staminate flowers at Brainerd and Pequot Lakes. Second instar moving into staminate flowers at Laporte. No activity noted in other areas of Hubbard County. (Minn. Ins. Rpt.). WISCONSIN - Early larval stages present in Washburn County May 23-28 and light in Marinette County May 15-21. Early larval stages feeding in staminate flower clusters May 15-21 in west central area. (Wis. Coop. Sur.).

WHITE-PINE WEEVIL (Pissodes strobi) - WISCONSIN - Adults active and numerous in Oconto, Langlade and Lincoln Counties, May 15-21. During same period, oviposition observed on white and jack pines in Jackson County and eggs and early instar larvae also noted on white pine in Sauk County. Mating noted in Langlade County May 25, as was adult feeding in Oconto County. (Wis. Coop. Sur.).

BARK BEETLES - WISCONSIN - Ips spp. and other species active in Waupaca, Waushara and Oconto Counties on white, red and jack pines. (Wis. Coop. Sur.).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - MINNESOTA - Appearing on spruce as new buds enlarge. (Minn. Ins. Rpt.).

PINE SAWFLIES (Neodiprion spp.) - IOWA - N. sertifer larvae, half to full grown, on Scotch and red pines in Monroe and Lucas Counties. Permanent damage not expected. (Iowa Ins. Inf., May 31). MINNESOTA - First and second-instar larvae, probably N. pratti banksianae, feeding on jack pine near Lake George, Hubbard County. (Minn. Ins. Rpt.). WISCONSIN - N. nanulus feeding on red and jack pine May 23-28 in Burnett County. Hatched in La Crosse County and feeding on red pine in Columbia County week of May 15-21. (Wis. Coop. Sur.).

LARCH SAWFLY (Pristiphora erichsonii) - WISCONSIN - Eggs and newly hatched larvae observed on European larch in Columbia and Grant Counties, week of May 22-28. (Wis. Coop. Sur.).

BALSAM TWIG APHID (Mindarus abietinus) - MINNESOTA - Found to be rather extensive on balsam in Itasca State Park. (Minn. Ins. Rpt.).

PINE SPITTLEBUG (Aphrophora parallela) - DELAWARE - Nymphs very common on loblolly pine in Dover area, Kent County. (Burbutis, Mason).

BLACK PINE LEAF SCALE (Aspidiotus californicus) - WISCONSIN - Approximately 2,000 acres of jack pine in Polk County heavily infested. Natural and plantation trees affected. (Wis. Coop. Sur.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - MINNESOTA - Occasional heavy infestation noted on white pine of sapling and saw-timber size in Dakota and Washington Counties. A pale green, dried-out appearance of needles associated with heavier infestations. (Minn. Ins. Rpt.). NORTH DAKOTA - Eggs hatching and crawlers present on infested pine and spruce in Fargo area, Cass County. (N. D. Ins. Sur.). IOWA - Eggs hatched. (Iowa Ins. Inf., May 31).

PINE TORTOISE SCALE (Toumeyella numismaticum) - OHIO - Crawlers active on Scotch pine in Hocking County, week of May 23. (Walker). WISCONSIN - Immature females light to medium on 20 acres of plantation jack pine in Marinette County. (Wis. Coop. Sur.).

JUNIPER SCALE (Diaspis carueli) - OHIO - First crawlers were appearing at Marietta, Washington County, May 25. (Walker).

BAGWORM (Thyridopteryx ephemeraeformis) - IOWA - Eggs hatching in southern area. (Iowa Ins. Inf., May 31). LOUISIANA - Heavy on arborvitae in Jefferson Parish. (Spink). TEXAS - Light to heavy infestations attacking arborvitae in Brazoria County. (Ellard). DELAWARE - First-instar larvae very abundant on cedars and arborvitae in Kent County, with a high count of 8 per leaflet. Also present on sycamore in northern part of county. (Burbutis, Mason).

PINE COLASPIS (Colaspis pini) - LOUISIANA - Causing heavy damage to ornamental pines in Jefferson Davis and Acadia Parishes and cypress in East Baton Rouge Parish. No infestations have been reported on commercial pine stands. (Spink)

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OKLAHOMA - Heavy on a wide variety of evergreens checked at Lawton, Comanche County. (Hatfield).

ELM CASEBEARER (Coleophora limosipennella) - NEW YORK - Has been locally abundant. (N. Y. Wkly. Rpt., May 31).

LARGE ASPEN TORTRIX (Archips conflictana) - WISCONSIN - Moderate to heavy infestations present on about 500 acres of aspen in Rusk County. Larvae reached middle instars May 23-28. (Wis. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - OREGON - Adult emergence reached peak in Salem area. Blacklight trap collections averaged 59 specimens each night. (Capizzi). ARKANSAS - Appearing in the southwest area; infestations observed in Hempstead County. First infestations are about 2 weeks later than in 1959. (Warren).

CANKERWORMS - NEW YORK - Unspecified species very numerous on a variety of trees on Long Island. (N. Y. Wkly. Rpt.). RHODE ISLAND - Nearly mature Alsophila pometaria larvae feeding heavily on deciduous trees on several adjacent properties in the Cranston area. (Mathewson, Hansen). IOWA - Paleacrita vernata larvae pupating; defoliation of elms ending. (Iowa Ins. Inf., May 31). NORTH DAKOTA - Light to moderate larval infestations of P. vernata causing leaf-feeding injury to scattered trees at Fargo, Cass County. (N. D. Ins. Sur.).

FRUIT TREE LEAF ROLLER (Archips argyrospila) - COLORADO - Unidentified species, reported in CEIR 10(23):470 as damaging trees in Denver, identified as this species. (Colo. Ins. Sur.).

OAK LEAF MINERS (Cameraria spp.) - NEW JERSEY - Moths of C. cinninatiella and C. hamadryadella are active. Activity low in Essex Fells area, Essex County, where attack was severe in 1959. (Ins.-Dis. Newsl., May 31).

BRONZE BIRCH BORER (Agrilus anxius) - NEW YORK - Infesting large birch trees in many parts of State. (N. Y. Wkly. Rpt., May 31).

ELM BARK BEETLES - WISCONSIN - Hylurgopinus rufipes has been attacking trap logs in southeastern area of State, with 20-25 brood galleries per square foot recorded. Only 1-2 adults of Scolytus multistriatus per square foot reported in southeast. Dutch elm disease cases diagnosed in 1960 totaled 14 on June 1, compared with 5 on May 25. Positive cases thus far are undoubtedly the result of 1959 infection. (Wis. Coop. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - ILLINOIS - Elm leaves being skeletonized in some areas, being especially severe on Chinese elms. (Ill. Ins. Rpt.). OKLAHOMA - Activity increased in Perry area, Noble County (Hesser); continues to cause concern to homeowners in Stillwater area, Payne County (Howell); and is beginning to be troublesome in Sallisaw area, Sequoyah County (Nowlen). MASSACHUSETTS - Eggs and larvae present on elms. (Crop Pest Cont. Mess.). RHODE ISLAND - Adult activity observed in Providence County. (Mathewson).

IMPORTED WILLOW LEAF BEETLE (Plagioderma versicolora) - DELAWARE - Adults causing light feeding injury to weeping willow in Kent County. (Burbutis, Mason).

LOCUST BORER (Megacyllene robiniae) - MINNESOTA - Commonly reported from the Twin Cities area. (Minn. Ins. Rpt.).

LOCUST LEAF MINER (Chalepus dorsalis) - NEW YORK - Adults very numerous in Yates County; caused considerable damage to locust foliage. (N. Y. Wkly. Rpt., May 31).

MAY BEETLES (Phyllophaga spp.) - MINNESOTA - Adults flying, with some defoliation on individual trees reported. (Minn. Ins. Rpt.). OKLAHOMA - Heavy on a variety of trees in Pushmataha County. (Goin).

A MAPLE APHID (Periphyllus testudinacea) - CALIFORNIA - Medium infestation of adults on Acer sp. in Martinez, Contra Costa County. (Cal. Coop. Rpt.).

SCALE INSECTS - CALIFORNIA - Heavy infestations of Mycetococcus ehrhorni and Aspidiotus osborni on oak trees in a city park in Martinez, Contra Costa County. This is a first record for this county. These scales also heavy on California live oak in Hopland, Mendocino County. A heavy infestation of Aspidiotus densiflorae on native oak in Fair Play, El Dorado County, is a first report for that county. (Cal. Coop. Rpt.). NEW JERSEY - Crawlers of several species are active on ornamentals. (Ins.-Dis. Newsl., May 31). OKLAHOMA - Kermes sp. beginning to damage tender growth on oaks in Ada area of Pontotoc County, with large numbers of crawlers active in the area. (Hailey). Killing terminal growth on oaks in Cherokee and Delaware Counties. (Flora).

ELM LEAF MINER (Fenusa ulmi) - NEW YORK - Locally abundant. (N. Y. Wkly. Rpt., May 31).

SAWFLIES - MISSOURI - Larvae of Tethida cordigera present on small ash seedlings; none found on larger trees. (Stone). COLORADO - An unidentified species defoliating ash trees in Pueblo County. (Colo. Ins. Sur.).

A GALL WASP (Disholcaspis eldoradensis) - OREGON - Dieback of oaks in residential areas of Multnomah County is possibly being caused by this species. Most adults emerged from galls by June 2. (Every).

AZALEA LEAF MINER (Gracilaria azaleella) - DELAWARE - Larvae active in azalea in northern New Castle County. (Burbutis, Mason).

CORN EARWORM (Heliothis zea) - CALIFORNIA - Medium on geraniums in Santa Paula, Ventura County. (Cal. Coop. Rpt.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - NEW JERSEY - A problem in Millstone township, Monmouth County, where large numbers are on the move. (Ins.-Dis. Newsl., May 31). CALIFORNIA - Light infestation on Prunus virginiana demissa in the Martins Ferry area, Humboldt County. (Cal. Coop. Rpt.).

AN ETHMIIID (Pyramidobela angelarum) - CALIFORNIA - Heavy infestations on Buddleia curviflora in a plant garden in Arcadia, Los Angeles County, and in San Pablo, Contra Costa County. (Cal. Coop. Rpt.).

MIMOSA WEBWORM (Homadaula albizziae) - INDIANA - Adults emerging on honeylocust in the Lafayette area. (Schuder).

JAPANESE BEETLE (Popillia japonica) - GEORGIA - Feeding on rose in Fulton County, June 1. This is the first report of the species this season. (Scott). RHODE ISLAND - Mature larvae forming pupal cells in soil in Narragansett area. (Hansen)

A CURCULIONID (Prionomerus calceatus) - LOUISIANA - Damaging Magnolia grandiflora in St. Tammany Parish. (Spink).

ROSE APHID (Macrosiphum rosae) - MARYLAND - Heavy on roses in Harford and Prince Georges Counties. (U. Md., Ent. Dept.).

SNOWBALL APHID (Anuraphis viburnicola) - IDAHO - Infesting snowball bushes in Bingham County; causing curling and deformed leaves. (Bishop, May 27). RHODE ISLAND - Infesting Viburnum sp. in East Greenwich. (Hansen).

LACE BUGS - MARYLAND - Unspecified species injuring rhododendron at La Plata, Charles County, and azaleas and sycamore at College Park, Prince Georges County. (U. Md., Ent. Dept.). MINNESOTA - Adults of Corythucha sp. active on elm in Hubbard County. (Minn. Ins. Rpt.).

BOXWOOD PSYLLID (Psylla buxi) - OHIO - Adult activity noted in Washington County at Marietta on May 23. (Walker).

A PSYLLID (Psylla uncatoides) - CALIFORNIA - Heavy populations damaging acacia trees in Richmond, Contra Costa County. (Cal. Coop. Rpt.).

A THRIPS (Frankliniella occidentalis) - CALIFORNIA - Heavy infestation on roses in San Andreas area of Calaveras County. (Cal. Coop. Rpt.).

BOXWOOD LEAF MINER (Monarthopalpus buxi) - OHIO - Adults were active at Marietta, Washington County, on May 23. (Walker).

AN ERIOPHYID MITE (Aceria magnoliae) - CALIFORNIA - Heavy on Magnolia selangiana in Bel Air, Los Angeles County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

HORN FLY (Siphona irritans) - INDIANA - Average per animal was 25-35 on beef cattle in pasture in Putnam and Montgomery Counties and 10-15 in Dubois County. (Dobson). LOUISIANA - Medium to heavy infestations on cattle in St. John the Baptist and West Carroll Parishes. (Spink). KANSAS - Counts on yearling steers and heifers ranged from 200-300 per head in Riley County. (Knapp). OKLAHOMA - Counts per animal averaged 750-1,000 on cows and 2,500-3,000 on bulls in herds of range cattle in Woodward and Harper Counties. (Howell). Light to medium on cattle in 3 herds of range animals in Johnston County. Counts per animal averaged 50 on calves, 75-200 on cows and 600 on bulls. (Vinson). Heavy on 30 head of range cows checked in Tillman County. (Hatfield).

FACE FLY (Musca autumnalis) - INDIANA - Five to 7 per animal on beef cattle in pastures in Montgomery and Putnam Counties. None seen in Dubois County. (Dobson). Four of 9 animals averaged 2 flies per animal in Wayne County. (Matthew). OHIO - Prevalent on dairy cattle in Perry County, June 2. (Holdsworth).

MOSQUITOES - CALIFORNIA - Slight overall increase in mosquito populations. Considerable increase in Red Bluff area of Tehama County. (Vect. Cont.). TEXAS - Undetermined species of mosquitoes heavy and widespread. Attacking livestock and field personnel in Parmer, Castro, Swisher and Deaf Smith Counties. (Russell). WISCONSIN - Presence of considerable numbers of mosquitoes felt on some days in many areas, with greater numbers threatening. The principal biting mosquito, Aedes vexans, recently emerged and migration of this species as well as A. dorsalis (in Madison area) from breeding areas has started. (Wis. Coop. Sur.). MAINE - Aedes sp. very numerous. (Boulanger, May 27).

HORSE FLIES (Tabanus spp.) - LOUISIANA - Heavy infestations on livestock in St. John the Baptist Parish. (Spink). OKLAHOMA - Counts averaged 0.5 per animal on range cattle in Woodward and Harper Counties. (Howell).

CATTLE GRUBS (Hypoderma spp.) - SOUTH DAKOTA - Adults active in several areas of State. (Hantsbarger).

A CERATOPOGONID (Leptoconops kerteszi) - CALIFORNIA - Adults biting people in Placentia, Orange County. (Cal. Coop. Rpt.).

HOUSE FLY (Musca domestica) - GEORGIA - Heavy populations in Jefferson County. (Johnson).

STABLE FLY (Stomoxys calcitrans) - IOWA - Appeared at Ames, May 23. If warm weather continues, large numbers may be expected by June 20. (Iowa Ins. Inf.).

BLACK FLIES (Simulium spp.) - IDAHO - Adults taken in low numbers around water courses in Owyhee County. (Gittins, May 27). MAINE - Very heavy in most of State. (Boulanger, May 27).

CATTLE LICE - OKLAHOMA - Bovicola bovis and Haematopinus eurysternus populations decreasing rapidly on range cattle in Woodward and Harper Counties. (Howell).

TICKS - INDIANA - More than usual number of inquiries concerning ticks on man and animals, in Orleans area. (Marshall). GEORGIA - Heavy infestations on beef cattle in Hancock County. (Knox).

AMERICAN DOG TICK (Dermacentor variabilis) - IOWA - Abundant in State. (Iowa Ins. Inf.).

GULF COAST TICK (Amblyomma maculatum) - OKLAHOMA - Medium to heavy on range cattle in 2 herds in Johnston County. Counts per animal ranged 0-40 in one herd and averaged 20 per animal on 75 heifers and 80 per animal on 10 bulls in the other herd. (Vinson).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Heavy in a turkey pasture formerly used for cattle in Le Flore County. (Goin). Heavy in wooded areas around Grand Lake. (Price). Medium to heavy (10-30 per animal) in 3 herds of range cattle in Johnston County. (Vinson).

MITES (Ornithonyssus spp.) - MISSOURI - Heavy infestations of O. sylviarum in birds' nests in a barn near Jefferson City. Det. by Camin. (Wingo, Enns). IOWA - O. sylviarum locally in Mahaska County. (Iowa Ins. Inf.). OKLAHOMA - Heavy number of Ornithonyssus sp. in a church in Pushmataha County. Mites brought in by English sparrows. (Goin).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - MINNESOTA - Intercepted from a ship at port of Duluth, May 29, by State and Federal plant quarantine inspectors. The ship was immediately quarantined and held at anchor in the bay until it could be fumigated. (Minn. Ins. Rpt.).

LESSER GRAIN BORER (Rhyzopertha dominica) - NORTH CAROLINA - Infestation in bird seed in seed store on February 28. (Wray, Moore).

BENEFICIAL INSECTS

LADY BEETLES - NEW YORK - Large numbers of larvae of an unspecified species found in an orchard in Clinton County, in presence of increasing numbers of apple aphid. (N. Y. Wkly. Rpt., May 31). ILLINOIS - Adults of unspecified species ranged 20-160 per 100 sweeps and larvae 0-5 per 100 sweeps in clover and alfalfa. (Ill. Ins. Rpt.). ARKANSAS - Several species, primarily Hippodamia convergens, more numerous in oats and wheat than in alfalfa, due to more prey being available in oats. Prey consisted mainly of Macrosiphum granarium. (Ark. Ins. Sur.). OKLAHOMA - H. convergens was light in corn fields and light to medium (0.5-1.5 per sweep) in alfalfa fields in east central area (VanCleave, Robinson); light to heavy (1-5 per sweep) in alfalfa and clover in Choctaw County (Goin); medium to heavy (1.5-3 per sweep) in alfalfa in Johnston and Carter Counties (Vinson); light to heavy (1-6 per square foot of crown area) in alfalfa in southwest area (Hatfield); light to medium populations (compared to aphid populations) were common in alfalfa in Garfield and Major Counties, with counts averaging 3-5 per sweep (Goin). NEVADA - Unspecified species averaged one adult per 3 sweeps in Kings River Valley alfalfa, Humboldt County. (Lauderdale, May 27).

A KLAMATHWEED BEETLE (Chrysolina gemellata) - IDAHO - Becoming abundant on klamathweed infestations in Kamiah area, Lewis County, with considerable feeding damage to plants observed. (Dailey, May 27).

NABIDS (Nabids spp.) - ILLINOIS - Counts ranged 0-20 per 100 sweeps in clover and alfalfa. (Ill. Ins. Rpt.). OKLAHOMA - Occasional to 1 per sweep common in alfalfa surveyed in east central area. (VanCleave, Robinson). Very light (0.1 per sweep) in a small percentage of fields checked in Choctaw County (Goin) and light (0.3 per sweep) in a field surveyed in Johnston County (Vinson). Averaged 6 per square foot of crown area in an alfalfafield in Greer County and none reported in other fields surveyed in southwest area. (Hatfield).

LACEWINGS (Chrysopa spp.) - ILLINOIS - C. oculata adults range 0-10 per 100 sweeps in clover and alfalfa in central and northern sections; larvae averaged 5 per 100 sweeps in same crops in central area. (Ill. Ins. Rpt.). OKLAHOMA - Very light populations noted in alfalfa fields surveyed in east central area. (VanCleave, Robinson). Heavy (3 per sweep) in one alfalfafield checked in Choctaw County and none in remaining fields checked in southeast area. (Goin). Light populations (0.5-1 per sweep) common in alfalfa surveyed in Johnston and Carter Counties. (Vinson). Averaged 2 per square foot of crown area in an alfalfafield in Greer County; none reported in other fields surveyed in southwest area. (Hatfield).

ALKALI BEE (Nomia melanderi) - OREGON - Began emerging May 23 in the Milton-Freewater area of Umatilla County. (Stephen).

MISCELLANEOUS INSECTS

A CUTWORM (Chorizagrotis sp.) - TEXAS - Remains abundant in many places in Lubbock County and has been a general pest around residences throughout the western part of the State. (Texas Coop. Rpt.).

CURCULIONIDS - CALIFORNIA - Heavy migrations of Sitona hispidula and Hypera brunneipennis into a house occurred in Vista, San Diego County. (Cal. Coop. Rpt.).

SEED-CORN MAGGOT (Hylemya cilicrura) - MISSOURI - Dead adults common on dock and alfalfa; death caused by the fungus, Entomophthora muscae. (Munson, Thomas, Kyd).

RED HARVESTER ANT (Pogonomyrmex barbatus) - OKLAHOMA - Mound activity continues to increase in Payne County. (Howell).

SILVERFISH (Lepisma saccharina) - NEW JERSEY - A problem in many areas of the State. (Ins.-Dis. Newsl., May 31).

CORRECTIONS

CEIR 10(21):407 - OBLIQUE-BANDED LEAF ROLLER (Archips rosaceana) - OREGON - Larvae reported infesting evergreen blackberries reported as this species have now emerged as adults and are identified as a leaf roller, Archips rosana. (Larson).

CEIR 10(20):387 - LOCUST LEAF MINER (Cahlepis dorsalis) should read (Chalepus dorsalis).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. ips.	Prod. ornith.	Perid. saucia	Protoparce sexta quinq.		Heliothis zea vires.	
ALABAMA								
Auburn 6/3	4	2	2			1		
ARKANSAS								
Morrilton 5/26-6/1	6	36					1	
Kelso 5/26-6/1	10	19					31	
Fayetteville 5/26-6/1	5	33		10			7	
DELAWARE								
Bridgeville 5/28-6/3	15	6	1		1		3	
ILLINOIS								
Urbana 5/27-31	106	7		5				
INDIANA (Counties)								
Lawrence 5/25-28,30,31	54	9		2			1	
Tippecanoe 5/27-6/1	32	4						
KANSAS								
Garden City 5/21-26,28-30	188	40		80		32		
Hays 5/24,26,28-30	29	10		1				
Manhattan 5/27-6/1	44	26	17	32			1	
Wathena 5/21-23,25	42	4						
LOUISIANA								
Franklin 5/30,6/1		9	5	4	6		2	
Baton Rouge 5/27-6/2	2	5	69	11			45	
Tallulah 5/27-6/3	2						3	2
MAINE								
Monmouth 6/1	1							
MARYLAND								
Fairland 5/27-6/1	22	18		3		2	4	
MISSISSIPPI								
*Stoneville 5/27-6/2	37	37	23	16	26		33	2
MISSOURI								
Sikeston 5/21-6/3	14	12		5			4	
Columbia 5/28-6/3	107	138	12	12			2	
NEBRASKA								
Lincoln 5/31-6/3	65	1		14			4	
North Platte 5/25-6/1	231	134		243		3	1	
Kearney 5/25-27	22	20		11				
Sidney 5/22-26	1	1		4				
Scotts Bluff 5/12-25	1	5		69				
NORTH CAROLINA								
Faison 6/2					26		5	
SOUTH CAROLINA								
Clemson 5/28-6/3	89	26	223	2	29	14	31	2
SOUTH DAKOTA								
Brookings 6/2	39							
TENNESSEE (Counties)								
Maury 5/24-30	8	4	12	4	24	12	12	
Robertson 5/24-30	12	3			6	2	8	
Cumberland 5/24-30	4	8		2	1			
Greene 5/24-30	4	3		2	1		4	
Blount 5/24-30	30	18	15	3	3	3	6	
Johnson 5/24-30	10	160	1	2			12	

* Two traps - Stoneville.

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. ips.	Prod. ornith.	Perid. saucia	Protoparce sexta quinq.	Heliothis zea vires.
TEXAS						
Waco 5/28-6/3	31	6	19	58		58
Brownsville 5/21-27	5	449	8		3 4	141

ADDITIONAL NOTES

MAINE - Infestation and damage of SEED-CORN MAGGOT (Hylemya cilicrura) moderate on beans in Orono area. Moderate TARNISHED PLANT BUG (Lygus lineolaris) numbers present in most apple orchards, with light injury. Infestations appear heavier than usual. EASTERN TENT CATERPILLAR (Malacosoma americanum) light in Washington County, with light damage to cherry and apple foliage. STRAWBERRY WEEVIL (Anthonomus signatus) generally light in most areas; occasionally moderate. Damage negligible where controls applied, but light to moderate where poorly timed or not made. Light infestations and injury of a BLUEBERRY THRIPS (Frankliniella vaccinii) appearing in new growth of low-bush blueberry in Washington and Hancock Counties. Moderate numbers of a BLUEBERRY FLEA BEETLE (Altica sylvia) present in several Hancock County townships; damage moderate; larvae about half grown on June 3. EUROPEAN ELM SCALE (Gossyparia spuria) infestations moderate to heavy in Orono area; damage undetermined. Moderate BIRCH LEAF MINER (Fenusa pusilla) infestations causing light damage to white birch in Washington County. BLACK FLIES (Simulium spp.) lessening in some areas; no abatement in others. MOSQUITOES (principally Aedes spp.) continue abnormally heavy in most locations; probably due to high water in rivers and streams which caused extensive wood-pools formation. Slow draining off allowed populations to complete development. (Boulanger).

PENNSYLVANIA - BRONZED CUTWORM (Nephelodes emmedonia) severe in spotted areas of Fayette County on bluegrass pasture on May 25; grass completely sheared. Mature larvae heavily parasitized by dipterous parasite. A TACHINID very numerous in homes or near homes in Greene County. Reported depositing fecal material on white clothes on May 25. The tachinids believed to be prevalent as a result of the heavy eastern tent caterpillar infestation and the fair and spotty bronzed cutworm infestation. CABBAGE MAGGOT (Hylemya brassicae) injury evident in many home gardens and some commercial plantings in southeastern area. AMERICAN DOG TICK (Dermacentor variabilis) has caused an unusual number of complaints this year in Bucks County. (Udine, Menusan, Sivel).

ALABAMA - TOBACCO THRIPS (Frankliniella fusca) causing considerable damage to peanuts in southeastern area. In some areas, infestations stunted growth of plants. Reported as worst infestation ever observed by several county agents. EUROPEAN CORN BORER (Pyrausta nubilalis) moths active in northern area; egg laying underway. CORN EARWORM (Heliothis zea) heavy in whorls of corn in Tennessee Valley and damage reported in Lee County. Moderate damage by BEAN LEAF BEETLE (Cerotoma trifurcata) and light damage by MEXICAN BEAN BEETLE (Epilachna varivestis) to beans in Chilton and Cullman Counties and THRIPS heavy on field peas in the same counties. Heavy infestations of CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) on cabbage in Lee County. Heavy infestation of RED-HEADED PINE SAWFLY (Neodiprion lecontei) larvae reported in Mobile County and WOOLLY ALDER APHID (Prociphilus tessellatus) activity reported on maple in Talladega County and in Lee County. FALL WEBWORMS appearing in several areas of State; increasing in Mobile County on persimmons and damaging pecans in Geneva and Houston Counties. (Grimes et al.).

WYOMING - ALFALFA WEEVIL (Hypera postica) adults averaged 4 per 25 sweeps and larvae 1 per sweep in 12 alfalfa fields in Platte and Goshen Counties. LYGUS BUG (Lygus sp.) adults averaged 2 and nymphs 1 per sweep in 12 alfalfa fields in Platte and Goshen Counties and PEA APHID (Macrosiphum pisi) averaged 5 per sweep in same area. Numerous ALFALFA CATERPILLAR (Colias philodice eurytheme) adults flying in alfalfa fields in same 2 counties. Adults of BEET WEBWORM (Loxostege sticticalis) becoming numerous in Platte and Goshen County alfalfa, sugar beets and along roadsides. An unspecified MIRID averaged 20 per 100 plants in 400-plant samples in each of 10 sugar beet fields in Platte and Goshen Counties. HONEY BEE (Apis mellifera) becoming numerous in alfalfa

showing bloom in same counties. In Platte and Goshen County alfalfa fields, adults of several beneficial species per 25 sweeps were as follows: Hippodamia sp. - 4; Nabis spp. - 3; Orius sp. - 2. Collops sp. adults averaged 3 per 25 sweeps in 8 alfalfa fields near Torrington and Chrysopa sp. 1 in alfalfa and along roadsides in Goshen County. Range GRASSHOPPERS continue to hatch on Glendo Study Area, but population is low, as expected. On June 1, the following species, with numbers per 100 square feet estimated, were: Aulocara ellioti (first and second instars) - 3; Cordillacris occipitalis (first to third instars) - 15; Ageneotettix deorum (first and second instars) - 3; Amphitornus coloradus (first to third instars) - 5; other species (first to third instars) - 3; Psoloessa delicatula (adult) - 1. (Fullerton, Pfadt).

IDAHO - ARMY CUTWORM (Chorizagrotis auxiliaris) attacking approximately 40 acres of spring barley near Cottonwood, but degree of damage not known. BROWN WHEAT MITE (Petrobia latens) heavily infesting approximately 400 acres of wheat in Downey area and cereals generally infested throughout Caribou and Franklin Counties. Chrysolina gemellata generally abundant in Orofino area, with migrations reported. WESTERN BLACK FLEA BEETLE (Phyllotreta pusilla) adults numerous and damaging horticulture plantings at Lewiston Branch Experiment Station. WHEAT CURL MITE (Aceria tulipae) heavily infested 8 acres of garlic in Twin Falls area. WIREWORMS and FALSE WIREWORMS abundant on 60 acres of wheat near American Falls, with damage estimated at 50 percent. (Gittins et al.).

NEW MEXICO - SPOTTED ALFALFA APHID (Therioaphis maculata) infestations spotty; moderate to heavy in alfalfa in Luna County. GRASSHOPPERS moderate to heavy and damaging crops in Villanueva Valley, San Miguel County. Heavy hatch of grasshoppers in area. Control work in progress. Medium to heavy infestations on irrigated land in Rio Grande River Valley in Taos, Rio Arriba, Sandoval, Bernalillo and Valencia Counties. Medium infestations on rangelands in Curry, Roosevelt and Quay Counties. Heavy in soil bank lands in Curry, Quay and Union Counties. Prevalent species on rangeland are Cordillacris sp., Aulocara ellioti, Melanoplus occidentalis, Drepanoptera femoratum, Ageneotettix sp., Metator pardalinus, Aeoloplides turnbulli and Phliobostroma quadrimaculatum. BLACK PECAN APHID (Melanocallis caryaefoliae) a problem on pecan trees in Dona Ana County; most large growers treating. Unspecified THRIPS very abundant on apple foliage in Sandoval County. BROWN DOG TICK (Rhipicephalus sanguineus) a problem in homes at Las Cruces, Dona Ana County, and HARVESTER ANTS (Pogonomyrmex barbatus fuscatus) have bitten two persons who sought medical treatment in Eddy County (a nuisance in yards and homes in southern counties). GREATER WAX MOTH (Galleria mellonella) has been a serious problem in hives throughout State where colonies were weakened this past winter. (N. M. Coop. Rpt.).

UTAH - GRASSHOPPERS - Nymphs 3-40 per square yard in Blue Creek, 0-10 in Snowville, 1-7 in Hansel Valley areas of Box Elder County. Hatching still spotty. Aulocara ellioti dominant on margins of some wheat fields. In Davis County at Centerville, Melanoplus sp. nymphs numerous in cheatgrass areas and roadsides. BROWN WHEAT MITE (Petrobia latens) causing moderate to severe injury to barley and wheat in areas of Cache County. MOSQUITOES troublesome in the Wellsville, Mendon, Logan, Amalga and Lewiston areas, Cache County; and at Grantsville and Lakepoint, in Tooele County. WESTERN HARVESTER ANT (Pogonomyrmex occidentalis) keeping crop and range forage areas bare in the Garland, Snowville and Kelton areas of Box Elder County. ALFALFA WEEVIL (Hypera postica) injury increasing generally in north central area and serious at Milford, Millard County, with the larval parasite, Bathyplectes curculionis, common. ONION THRIPS (Thrips tabaci) causing some damage to onions in Ogden area of Weber County. ONION MAGGOT (Hylemya antiqua) infesting 2-15 percent of onions examined in Cache and Weber Counties. STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) damaging some strawberry and raspberry patches at Pleasant Grove and Orem, Utah County. BEET LEAFHOPPER (Circulifer tenellus) averages 3.4 per foot of beet row in Sevier and Sanpete Counties. Curly top showing in 4-20 percent of the tomato plants at Santa Clara, Washington County. About 0.1 per linear foot of row is in line with early forecasts in northern area. FLEA BEETLES less severe on sugar beets in the Sevier-Sanpete County fields than in Weber-Box Elder County fields. Unusually severe to radishes, turnips and beets in Cache and Box Elder County home gardens. PEA APHID (Macrosiphum pisi) damaging alfalfa in the Fillmore-Kanosh area of Millard County and at Clarkston in Cache County. A BUD MITE (Aceria parapopuli), det. H. H. Keifer, severely damaged cottonwoods at Manila, Daggett County. Similar damage is even more extensive to cottonwoods at Woodruff in Rich County. HORN FLIES troubling cattle in Green River area of Emery County. (Knowlton, Thornley, Davis, Dorst).

NEVADA - PEA APHID (Macrosiphum pisi) averaged 2-3 per sweep in the most lightly infested alfalfa fields and 15-20 per sweep in the most heavily infested fields in Douglas County. ALFALFA WEEVIL (Hypera postica) averaged 2-3 larvae per sweep in approximately half of the fields in Douglas and 20-30 per sweep in the remainder. Damage severe in many fields. LYGUS BUGS (Lygus spp.) averaged 2-3 per sweep in alfalfa fields in Douglas County. IMPORTED CABBAGEWORM (Pieris rapae) heavy and severely damaging cabbage plants in a nursery in Minden, Douglas County. ONION THRIPS (Thrips tabaci) moderate on garlic in Lovelock, Pershing County. CABBAGE LOOPER (Trichoplusia ni) larvae damaged about 50 percent of a 40-acre cottonfield and 10 percent of a 100-acre cottonfield in Pahrump Valley, Nye County. A SPIDER MITE (Tetranychus sp.) treated on over 250 acres of cotton in Pahrump Valley, Nye County. ELM LEAF BEETLE (Galerucella xanthomelaena) larvae present in the Reno-Sparks area, Washoe County. A BARK BEETLE (Ips oregoni) heavily infesting freshly cut ponderosa pine in the Lake Tahoe area. MOUNTAIN PINE BEETLE (Dendroctonus monticolae) and WESTERN PINE BEETLE (D. brevicornis) infestation of ponderosa pine continues at a high level in the Incline Beach area of Lake Tahoe, Washoe County. Many small trees, 3-6 inches in diameter, have been attacked. (Bechtel et al.).

VERMONT - FACE FLY (Musca autumnalis) reported annoying to cattle in Chittenden, Franklin and Addison Counties. CODLING MOTH (Carpocapsa pomonella) egg laying begun and crawlers of OYSTERSHELL SCALE (Lepidosaphes ulmi) emerging. FLEA BEETLES continue heavy on tomatoes and potatoes and COLORADO POTATO BEETLE (Leptinotarsa decemlineata) heavy in home gardens. (MacCollom).

STATUS OF SOME IMPORTANT INSECTS IN THE UNITED STATES

ORIENTAL BEETLE (Anomala orientalis Waterh.)

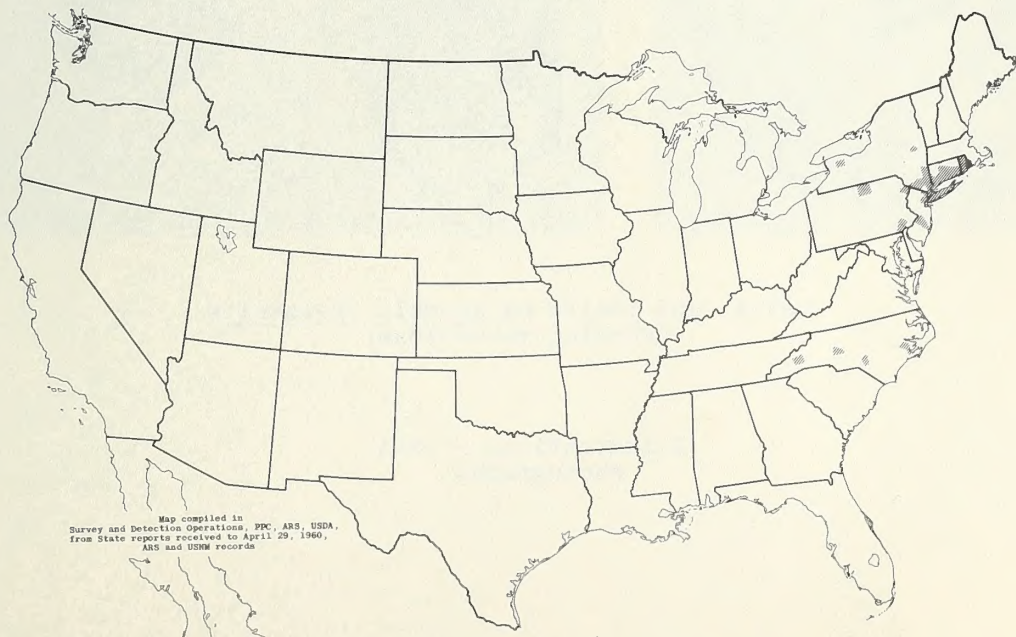
Economic Importance: This beetle, which is indigenous to Japan, was first recorded in the United States in a nursery in New Haven, Connecticut, in 1920; and was also reported at Jericho, Long Island, New York, in 1926. It is primarily a grassland pest, spending about 10 months of the year in the soil as larvae, mainly lawns. Larval counts have ranged as high as 550 per square foot. Sugarcane on the island of Oahu, Hawaii, was threatened with destruction by this pest until it was controlled by a parasitic wasp, Scolia manilae, introduced from the Philippine Islands.

Distribution: Japan and the United States (including Hawaii).

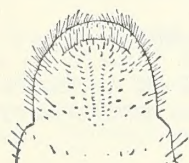
Hosts: Grasses are the preferred host. Also recorded on cyclamen, iris, Pawonia sp., phlox, rose, hollyhock, bean, beet, onion, strawberry, rhubarb, dandelion and Ageratum houstonianum.

Life History and Habits: This species generally completes its cycle in one year, but it may pass two winters as a larva. In Connecticut, adults emerge from the soil throughout July and August. They usually remain in the soil one or more days before coming to the surface, however. Adults may be active at all periods of day or night, but feed very little. Mating takes place soon after emergence. Females deposit eggs singly from one to nine inches beneath the soil surface. Eggs hatch in 17-27 days. Young larvae feed on grass roots and decaying organic matter, existing on the latter alone if necessary. Feeding continues until about mid-October when larvae migrate down to a depth of 8 to 17 inches to pass the winter. A few larvae hibernate as first instar. About late April, larvae return to the soil surface and feed on grass roots until early June. Pupation takes place in an earthen cell about 5 inches below the surface and lasts 10 to 15 days.

DISTRIBUTION OF ORIENTAL BEETLE (Anomala orientalis)

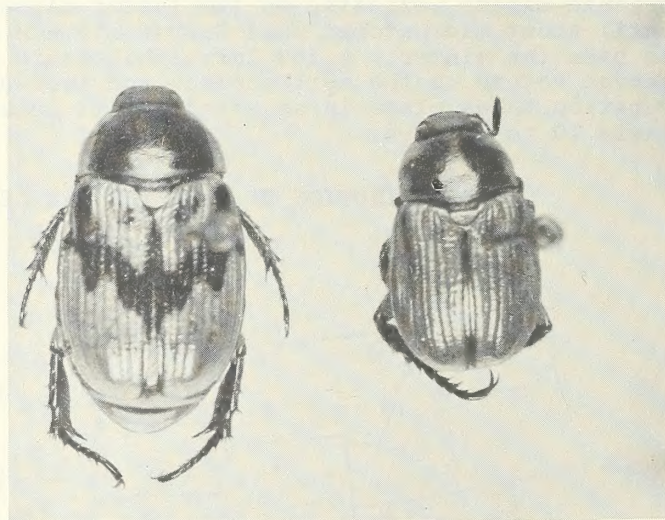
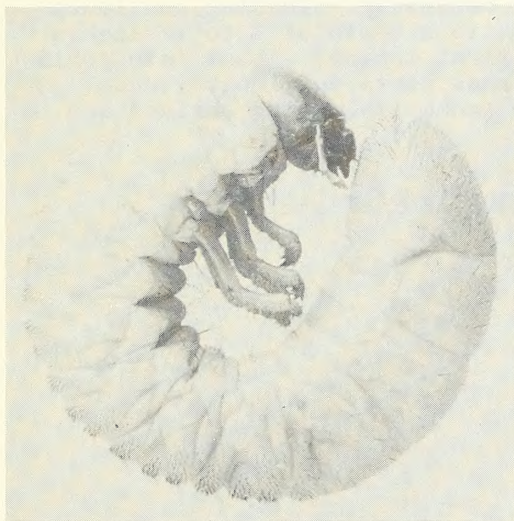


Description: ADULT - Color variable, ranging from straw-colored to black, but typically straw-colored with dark markings (see illustration below). Length 6-8 mm.; width 4-6 mm.; elongate, oval in shape and typically scarabaeid. Elytra striate and punctate. Pygidium fully exposed. Female abdomen larger in proportion to rest of body than in male; the latter tending to be slightly concave on the ventral side, while abdomen convex in female. Females somewhat larger than males. Horizontal row of setae on 8th abdominal sternite follows a sinuate carina in male and in female follows posterior margin of sternite. EGG - White, ovoid, smooth and measures about 1.2 mm. by 1.5 mm. LARVA - Newly hatched larva about 4 mm. long and about 8 mm. at end of first instar. Second instar attains length of about 15 mm. and third instar about 20-25 mm. On



Raster

underside of last abdominal segment, 2 rows of longitudinal, pointed spines present; anal opening transverse (see illustration). PUPA - Length about 10 mm., width 5 mm. at greatest diameter. Light-brown, entire body covered with very fine pubescence. On ventral side, all mouth parts and thoracic appendages distinct. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 10(24): 6-10-60.



Larva and Adults of Anomala orientalis
(Showing variations)

Illustrations - USDA
Photographs

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